

## SURGICAL TREATMENT OF DUODENAL AND GASTRIC ULCER \*

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Text-books and current medical literature go into this subject so fully that we are academically informed, and I will not weary you with repetition. Nor shall I take up the subject from the etiological standpoint, or deal at length with various methods of treatment, or operative technique. These details are familiar to you, and medical classics have been written on the subject by others.

During our experience of the past twenty years in the Southern Pacific Hospital, we have come to the realization that the vault of the abdomen is a common field for the efforts of both the physician and the surgeon.

Outside of appendicular trouble, ulcer, either duodenal or gastric, claims the major portion of our consideration. This may be accounted for in this class of patients by unhygienic habits of living, irregularity of meals and hours of rest, and mouth infections.

By routine, all patients with gastro-intestinal disturbance fall first into the hands of the physician. The stomach mimics in symptoms its associated organs in the abdomen. Excessive pain, hyperacidity and spasm, and even gastric hemorrhage may occur where other organs, such as the gall-bladder or appendix, are involved.

Not a few well-defined ulcers, established both by clinical and X-ray methods, are shown by the Wassermann test to be of luetic origin. Ulcer may coexist with the crisis of tabes.

It is difficult, clinically, to differentiate between gastric and duodenal ulcer—often it is impossible. X-ray investigation should overcome this difficulty. Here, we must emphasize the important function, not only of the X-ray, but the roentgenologist. As the ultimate decision is frequently determined by him, he should be reliable and competent.

When is medical treatment indicated and when surgical interference? This depends upon the type of ulcer. There is a feeling that the pendulum has swung too far toward surgery.

After definite distinction is made as to the nature of the ulcer, our procedure is, as follows: If duodenal, the patient continues under medical care. This serves two purposes—the possibility of cure, or of bringing the patient to better condition for surgical interference. If gastric, it is assumed to be a surgical case.

We recognize that the symptoms of duodenal ulcer may disappear and cure take place, even without the assistance of the physician or the surgeon.

A chronic ulcer, with intervals of apparent relief from symptoms, argues against medical treatment. Relief may be obtained, but not cure. Many experienced surgeons agree with Moynihan that medical treatment but tides the patient through the exacerbation, and does not cure.

Deaver considers it is better to have an empty house than a bad tenant, and it is as unfair to claim a cure for the relief obtained by medical

treatment as it would be to say that the draining of an appendicular abscess, without removal, was a guarantee against a recurrence of appendicitis.

**Duodenal Ulcer**—A small, palpable, duodenal ulcer, not obstructive in its nature, nor massive in its induration, nor inflammatory with adhesions, should be left to the physician. When such small, soft, duodenal ulcers come to the operating-table, interference is often followed by unhappy sequelae.

We are all familiar with that alleged cholecystitis, clinically diagnosed, which, on operation, does not present gross evidence sustaining the clinical symptoms. The result is apt to be disquieting to both patient and surgeon, the very opposite of the uneventful recovery attending the removal of a gross lesion. This same rule holds good in duodenal ulcer.

When we find induration, adhesions, or possibility of obstructive process, caused either by kinking or by a lessening of the caliber of the duodenum, gastro-enterostomy is the preferred treatment, with pylorotomy if the patient's condition will permit.

When there is an exudate down the duodenum, or a large indurated mass with many adhesions, rendering it impossible to invaginate the stump, pylorotomy is contra-indicated.

Pylorotomy, followed by posterior anastomosis, is made in all cases where there is a large mass of doubtful character, or even a large inflammatory mass of long standing, involving glands. Here results have been extremely favorable, especially in cases where there is evidence of obstruction. Improvement has been lacking and results unfavorable in cases where the pathology is not gross, or there is not mechanical interference with the pylorus. For this reason, some surgeons have artificially obstructed the pylorus, thinking to produce the favorable conditions known to be present with obstruction.

Some patients return with distressing symptoms after ideal technical gastro-enterostomy. X-ray investigation discloses that the stomach is emptied very rapidly, and I venture the opinion that the trouble lies in the injection of acid gastric juices into the alkaline fluid of the jejunum and duodenum. The disturbed chemical balance produces spasm of the small intestine.

Symptomatic treatment, diet, and nature overcome this difficulty, and in several patients, which have come under my observation, digestion is apparently normal after a few months, or, at most, a year.

Perforation is recognized by some authorities as a cure of that duodenal ulcer. I do not believe this true. The serious crisis so impresses the patient that he is pliant to the counsel of his medical adviser, and faithful to the regulations laid down for his care. This patient is not apt to trifle with his digestive apparatus. His mental attitude is far different from that of the patient, who, obtaining immediate relief through a gastro-enterostomy, takes his restoration to health as final; is slow to seek or to comply with medical advice, and so brings discredit upon the work of the surgeon.

\* Read before the San Francisco County Medical Society.

In my opinion, medical supervision is always indicated following gastro-enterostomy for either duodenal or gastric ulcer.

The age of the patient with a duodenal ulcer should be taken into consideration before deciding upon operation. Life insurance actuaries state that the average age for appearance of duodenal ulcer is forty years; the life expectancy is from twenty to twenty-five years.

Can surgery prolong that period? The patient may, in skilled hands, be relieved from symptoms. Can medical treatment give equally good results and sustain this expectancy, taking into consideration the possibility of perforation, hemorrhage, or obstructive process?

*Gastric Ulcer*—Discussion of the treatment of gastric ulcer seems to be limited to the method of operation.

In 1901, we recognized the fallacy of the long-arm anastomosis. Faced with the difficulties attendant upon the vicious circle, J. H. O'Connor suggested the short-arm method, and we worked up some twelve cases, which were to be reported in a meeting of the State Medical Society in 1902. Unfortunately, these records have been destroyed.

On May 7, 1902, in a paper read before the Edinburgh Chirurgical Society, F. M. Caird reported twenty-one cases operated by anterior and posterior methods, favored the posterior route, *as close to the duodenum as convenient*.

Mayo's 1902 resumé of the subject should average fourteen inches for the anterior method, and not less than ten inches for the posterior. Mayo stated:

We have made the posterior anastomosis eleven times and the anterior sixty-nine times, with equally good results. Theoretically, the posterior operation would seem the better, as one can secure the jejunum at a higher point. We have made the posterior within six inches of the origin of the jejunum, and it takes fourteen inches to form a loop for the anterior method. The making of the posterior operation so close is not a safe procedure, as, if it should become necessary to do an entero-anastomosis later, there is not sufficient room on the proximal side of the anastomotic opening for this purpose. We lost one case from this cause. In either operation, from fourteen to sixteen inches of intestine should be left on the proximal side. . . .

Later, the Mayo's called attention to the prolongation of the peritoneum, forming a fan-shaped projection or ligament supporting the jejunum, as offering a further obstacle to perfect technique. They advised, if this extended too far along the bowel, to dissect it, in order to make the anastomosis close to the ligament of Trietz.

Some years ago I had a case of this nature. I dissected the fan-shaped fold of the peritoneum back some distance, and my anastomosis did not cover the entire portion of bowel so dissected. On the sixth day, with previous good condition, my patient developed pernicious vomiting, as in the vicious circle. Lavage did not bring about relief, and on the eighth day, with intervals of from six to eight hours, volumes of fluid were still ejected.

X-ray taken in the recumbent position, with tube beneath, screened, showed that the meal would pass through the new stoma and gather in

a large mass, or ball-like shadow, proximal to the opening. On the following day, after lavage, I reopened the abdomen, but could not determine the cause of obstruction.

To all appearances, the condition was good and without any twist or edema in the bowel. I could not determine why there was a backward flow. Before leaving the table, the stomach was filled by tube. The fluid was found pouring through the anastomosis, ballooning up the proximal end to such an extent that it would kink the anastomosis. Assuming the dissected prolongation was the cause, I Lemberted the bowel. There was no further disturbance.

We discovered also that if the mesocolon had a liberal supply of fat and was attached to the line of our suturing—that is, over the anastomosis—there was a possibility of tumefaction followed by contraction of this fat. Constriction of the anastomosis or stoma followed. In this particular case the condition demonstrated that the mass of fat had contracted to such an extent as to practically obliterate the stoma. The mesocolon opening was enlarged and a enteroenterostomy performed, which is a very difficult operation with the short-arm loop. Thereafter, our technique included the attachment of the mesocolon opening on the stomach wall one-quarter to one-half inch from the anastomosis.

Any twisting in the proximal end will produce a stasis, with a condition arising almost similar to an ileus. Persistent vomiting periodically during convalescence is due, no doubt, to an edema or paralysis of this end of the bowel. In one case, with persisting vomiting, the patient was kept in partial Trendelenburg's position, and, even in sleep, the foot of the bed was considerably elevated. All vomiting disappeared, and the patient made an uneventful recovery. Excision of all saddle-back ulcers, especially those close to the cardiac end of the lesser curvature, results in arresting the peristaltic waves directly across the line, opposite the site of ulcer. This occurs even when a good section of the pars meda remains, sufficient one would judge, to offer no hindrance to the passing of food.

As I said before, clinical evidence alone is not sufficient to diagnose ulcer. Before the days of the Roentgen ray, many cases were operated on clinical evidence, with resulting disaster. Intervals of rest, or freedom from pain, do not necessarily indicate cure. The tendency of all gastric ulcers, even when quiescent, is toward recurrence, and ultimately toward malignancy. I believe that surgery here is the only method of treatment, and the surgeon's hand should not be checked.

I can do no better in this respect than to quote from my namesake, Robert C. Coffey of Portland, Ore.:

Obviously, it is impossible to compare the ultimate results of medical treatment with surgical treatment, for every conservative surgeon insists that every case of peptic ulcer shall have the advantage of good medical treatment before surgery is considered. Therefore, every well-selected surgical case of gastric or duodenal ulcer represents a medical failure, or more accurately stated, repeated failures on the same patient. So, if the medical man can cure 50 per cent of the cases of ulcer, and we

as surgeons can cure 85 per cent of his failures, there seems to be no good reason for rivalry.

Granting the possibility of healing, contraction may follow with hour-glass stomach, and frequently, stenosis, especially about the pylorus, with still the possibility of the recurrence of ulcer in the scar tissue.

Here, as in the duodenum, perforation, of course, requires immediate surgical interference. The question of excision of the gastric ulcer, followed by gastroenterostomy, is still a debatable one. Most experienced surgeons believe that gastroenterostomy should be done. If ulcer is to be considered potentially carcinoma, excision would seem to be the better surgical judgment. Whether this should be immediately followed by gastroenterostomy must depend a great deal upon the judgment of the surgeon.

#### SUMMARY

After our many years of experience, made up of successes, errors and disappointments, we have come to the following conclusions regarding the care of patients with suspected ulcer.

1. Routine assignment to the medical service.
2. Proper differentiation between gastric and duodenal ulcers.
3. To recognize the medical and surgical types.
4. That all gastric ulcers are essentially surgical.
5. That lues must be recognized as one of the causative agents of ulcer.
6. That clinical evidence alone is not sufficient reason for surgical interference.
7. That the surgeon must ever keep in mind the part that focal infection plays. He should possess sufficient acumen to attribute to these various factors their proper place in disturbance of digestion.
8. The general practitioner, who occasionally practices operating, should keep his hands out of the upper abdomen, as he lacks the judgment only gained by long practice of surgery.
9. That the responsibility for operation rests heavily upon the roentgenologist for a possible error in non-surgical cases.
10. That surgery does not relieve the patient from the necessity for medical care following gastroenterostomy.
11. That many of the troubles encountered by the patient and many of the reflections cast upon the surgeon are due to lack of supervision and advice, following the mechanical work of surgery.
12. That many so-called medical cures of duodenal ulcer are of doubtful diagnosis, and when sufficient evidence for diagnosis is presented, clinically and by X-ray, the case is well on its way to the hand of the surgeon.

Medical Building.

**Phi Rho Sigma**—The members of this national medical fraternity with some thirty chapters in different states will hold a banquet at the St. Francis Hotel, Wednesday evening, June 27, at six-thirty o'clock. After the banquet the members will attend the reception to the President of the American Medical Association, at the Fairmont Hotel. Phi Rho Sigmas are requested to communicate with Charles S. French, 749 Flood building, San Francisco.

## OSTEITIS FIBROSA CYSTICA OCCURRING IN A FLAT BONE

Report of a Case

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Our knowledge of cyst formation in the long bones dates back to 1876, when Virchow described a cyst of the humerus which he considered as being due to a liquefaction of a chondroma. Following this article there appeared one by Rindfleisch in 1886, and Hirschberg in 1889, in which they both described cysts, occurring in cases of osteomalacia. It was not, however, until 1891 that Von Recklinghausen described in detail general osteitis fibrosa cystica of the long bones, and to which his name has since been attached. From this time on, various authors have published articles and described their findings in more or less detail, both in Europe and America. Chief among American authors have been Bloodgood, Beck, Silver, Freiberg, Murphy, Percy, and Meyerding. Up to 1911, the most comprehensive work that appeared was one by Silver, in which he reviewed the subject to date, together with a bibliography. In 1918, Meyerding reported a series of nineteen cases from the Mayo Clinic. This series was not confined to single bone cysts, but included multiple cysts as well. His conclusions were similar to those arrived at by Silver. Silver in his paper says:

"The term bone cyst is used today in a more or less specific sense to designate those cases in which the formation within the bone of a cavity filled with fluid is the most prominent symptom and in which examination of the surrounding tissues and of the fluid fails to reveal any readily apparent connection with a definite disease."

Confining himself to the above definition of bone cysts, and excluding such cases arising from softening of pre-existing tumors, cysts due to infection (the so-called bone abscess), cysts due to parasites, those occurring in rarefying bone disease, those found in general osteitis fibrosa, callous cysts, and cysts in Barlow's disease, he was able to find one hundred and four cases which conformed to this definition, and from these he excluded seven, because more than one cyst was present.

The distribution of the remaining ninety-seven cases was as follows:

Femur .....	31	Phalanges .....	7
Tibia .....	15	Astragalus .....	1
Fibula .....	6	Calcaneus .....	2
Humerus .....	25	Metatarsal .....	1
Ulna .....	2	Clavicle .....	3
Radius .....	1	Pelvis .....	1
Carpal Scaphoid ....	1	Metacarpal .....	1

His table shows that the majority of cases of cyst appear in the long bones, and in these the femur and humerus show the highest percentages. Since the disease shows a predilection for the long bones, and the femur and humerus in particular, the following case occurring in a flat bone, and no other case having been found in the literature, the writer feels that it is worthy of being reported in detail.

Case No. 7431—E. B. M., aged 23, male, born in Michigan, occupation, oil worker, single.